Project Summary

I. INTRODUCTION

Southern Illinois Cooperative has applied for a Clean Air Act Permit Program (CAAPP) operating permit for its existing power plant located in Marion. The CAAPP is the program established in Illinois for the operating permits for significant stationary sources required by the federal Clean Air Act, as amended in 1990. The conditions in a CAAPP permit are enforceable by both the Illinois Environmental Protection Agency (Illinois EPA) and the USEPA.

II. EMISSION UNITS

The Permittee operates a circulating fluidized bed (CFB) boiler for electric generation (Unit 123). The boiler is designed to burn a variety of solid fuels, including coal, coal refuse, petroleum coke, tire derived fuel and wood chips. The boiler has a nominal capacity of 1402 mmBtu/hour and is served by a dedicated stack. In addition to coal and other solid fuels, this boiler fires fuel oil or natural gas as auxiliary fuel during startup and for flame stabilization.

Sulfur dioxide (SO_2) emissions from the boiler are controlled by limestone injection into the bed of the boiler. Nitrogen oxide (NOx) emissions are controlled by a selective non-catalytic reduction (SNCR) system. Particulate matter (PM) emissions are controlled by a baghouse.

Construction of this boiler commenced in 2001, under Permit 00070030. The boiler repowered an existing steam turbine, replacing three old coal fired boilers, Units 1, 2 and 3. These old boilers have now been permanently removed from service. Accordingly, as provided by 35 IAC 211.5880, as Unit 123 repowered existing units, it is considered an existing unit for purposes of the NOx control requirements of 35 IAC Part 217, rather than a newly constructed unit.

The Permittee operates a conventional coal-fired boiler (Unit 4)for electric generation. The boiler, which was built in the 1975, has a nominal capacity of 1700 mmBtu/hour and is served by its own stack. This boiler also has the capability to fire at various modes such as combination of coal and fuel oil as their principal fuel. In addition to coal, this boiler fire natural gas or fuel oil as auxiliary fuel during startup and for flame stabilization.

Nitrogen oxide (NOx) emissions from the boiler are controlled by a selective catalytic reduction (SCR) system, which was recently installed pursuant to Construction Permit 00070028. This system is operated at the discretion of the Permittee as needed to facilitate compliance with the requirements for NOx emissions under the NOx Trading Program. Sulfur dioxide (SO_2) emissions from the boiler are controlled by a flue gas desulfurization (FGD) scrubber system. Particulate matter (PM) emissions are controlled by an electrostatic precipitator (ESP).

In addition to the utility boilers, the source also has emissions from ancillary equipment including handling, processing of the coal used in the boilers, limestone handling used for the scrubbers, and a gasoline storage tank.

III. EMISSIONS

This source is required to have a CAAPP permit since it is a major source of emissions. In its most recent Annual Emission Report, for 2002, the source reported annual emissions of 169.3, 6,592.40, 204.8, 9,007.60, and 28.43 tons of carbon monoxide (CO), nitrogen oxides (NOx), particulate matter (PM), sulfur dioxide (SO_2), and volatile organic material (VOM), respectively.

IV. APPLICABLE EMISSION STANDARDS AND REQUIRMENTS

All emission units in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois.

The emission units at this source must also comply with applicable federal emission standards, which the Illinois EPA administers in Illinois on behalf of the United States EPA under a delegation agreement. Boiler 4 is subject to federal New Source Performance Standards 40 CFR 60 Subparts A and D, and Boiler 123 is subject to federal New Source Performance Standards 40 CFR 60 Subparts A and Da. USEPA has not yet adopted National Emission Standards for Hazardous Air Pollutants (NESHAP) that apply to boilers. The CAAPP permit would not shield the source from the applicability of any such NESHAP standards.

These utility boilers are affected units subject to the federal Acid Rain Program, pursuant to Title IV of the Clean Air Act. Under the Acid Rain Program, the source must hold SO_2 allowances for its emissions of SO_2. A copy the source's current Acid Rain permit will be included as an attachment to the CAAPP permit.

These utility boiler will also be affected unit subject to the NOx Trading Program. This is a new interstate market-based program designed to reduce NOx emissions from electric power plants and other large NOx sources beginning in 2004. One of the procedural requirements of this program for a source with affected units is to hold a "budget permit." This budget permit sets forth the various requirements of the NOx Trading Program that would apply to the source. The Illinois EPA is proposing to include this budget permit as Section 6.1 of this CAAPP permit.

V. PROPOSED PERMIT

CAAPP

A CAAPP permit contains all conditions that apply to a source and a listing of the applicable state and federal air pollution control regulations that are the origin of the conditions. The permit also contains emission limits and appropriate compliance procedures. The appropriate compliance procedures may include inspections, work practices, monitoring, record keeping, and reporting to show compliance with these requirements. The Permittee must carry out these procedures on an on-going basis.

For these coal-fired boilers, these compliance procedures include continuous monitoring for opacity and emissions SO2 and NOx. These

monitoring systems must be operated in accordance with the requirements of the federal Acid Rain Program.

Title I

A combined Title I/CAAPP permit contains terms and conditions established by the Illinois EPA pursuant to authority found in Title I provisions, e.g., 40 CFR 52.21, the federal rules for Prevention of Significant Deterioration (PSD) and 35 IAC Part 203 - Major Stationary Sources Construction and Modification.

This permit would be a combined Title I/CAAPP permit. A combined CAAPP/Title I permit contains terms and conditions established by the Illinois EPA pursuant to authority found in Title I of the Clean Air Act and regulations promulgated thereunder, e.g., the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. These terms and conditions in the CAAPP permit address the applicability, and compliance if determined applicable, of these Title I provisions. Such terms and conditions in the CAAPP permit are identified within the permit by T1, T1R, or T1N. For such provisions identified ~~i~~as T1R or T1N, the source has requested that the Illinois EPA revise or establish such conditions in a Title I permit, consistent with the information provided in the CAAPP application.

Any conditions established in a construction permit pursuant to Title I and not revised or deleted in this permit, remain in effect pursuant to Title I until such time that the Illinois EPA revises or deletes them. Notwithstanding the expiration date on the first page of the permit, the Title I conditions remain in effect pursuant to Title I until the Illinois EPA deletes or revises them in accordance with Title I procedures.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that this source's permit application meets the standards for issuance of a CAAPP permit. The Illinois EPA is therefore proposing to issue a CAAPP permit, subject to the conditions proposed in the draft permit.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 Ill. Adm. Code Part 166.